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Checking Mountain Soil Moisture Under the Snow, an important factor in snowmelt runoff,

Federal-State Cooperative Snow Surveys and Water Supply Forecasts

for

OREGON

SOIL CONSERVATION SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AND

OREGON AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with the Oregon State Engineer, U.S. Forest Service, National Park Service and other Federal, State and local organizations.

____AS OF____ FEB. 1, 1956

UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

Snow surveys in the West are conducted each year at more than 1200 snow courses. Basin and Province or State snow survey reports summarizing the results of the measurements and forecasts of seasonal runoff and water supply are issued by the Soil Conservation Service, U. S. Department of Agriculture and some of its cooperators; the Water Rights Branch of the British Columbia Department of Lands and Forests; and the California Division of Water Resources.

Copies of the various federal-state cooperative snow survey reports listed below may be secured by writing to:

Head, Water Supply Forecasting Section Soil Conservation Service 209 S. W. 5th Avenue Portland 4, Oregon

BASIN REPORTS:

Colorado, Rio Grande, and Platte-Arkansas River Basins	Issued monthly February through May by SCS and Colorado Experiment Station, Fort Collins, Colorado.*
Columbia River Basin	Issued monthly January through May by Soil Conservation Service, Boise, Idaho.*
Upper Missouri River Basin	Issued monthly February through May by SCS and Montana Agricultural Experiment Station, Bozeman, Montana.*
	Issued April 1 by Soil Conservation Service and Cooperators, Portland, Oregon.
STATE REPORTS:	
Arizona	Issued semi-monthly January 15 through April 1 by SCS and Salt River Valley Water Users Association, Phoenix Arizona.*
Nevada	Issued monthly February through April by SCS and Nevada State Engineer, Reno, Nevada.*
Oregon	Issued monthly January through May by SCS, Portland, Oregon, and Oregon Agricultural Experiment Station.*
Utah	Issued monthly January through May by SCS, Salt Lake City, Utah, and State Engineer of Utah and Utah Agricultural Experiment Station.*
Washington	Issued monthly February through May by SCS, Spokane, Washington, and State Department of Conservation and Development.*
Wyoming	Issued monthly February through May by SCS, Casper, Wyoming, and State Engineer of Wyoming.*

The British Columbia reports are issued February 1 through June 1 and may be secured from Comptroller, Water Rights Branch, Department of Lands and Forests, Parliament Buildings, Victoria, B.C.

*Special reports are issued as needed.

The California reports are issued monthly February 1 through May 1 and may be secured from Division of Water Resources, California Department of Public Works, Sacramento, California.

The annual water supply forecasts of the Weather Bureau are available in monthly bulletins published from January through May. These bulletins entitled, "Water Supply Forecasts for the Western United States" may be obtained from River Forecast Center, Weather Bureau, 712 Federal Office Building, Kansas City 6, Missouri.

FEDERAL-STATE COOPERATIVE

SNOW SURVEYS AND WATER SUPPLY FORECASTS

FOR.

OREGON

Issued

February -9, 1956

Report Prepared

by

W. T. Frost, Snow Survey Supervisor and Manes Barton, Assistant Water Forecaster

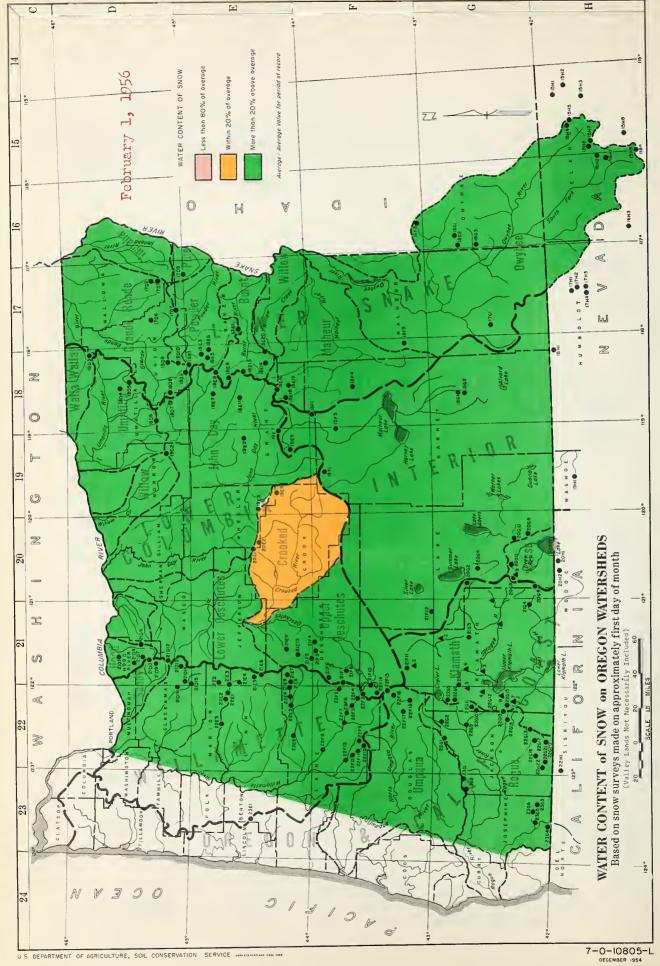
Soil Conservation Service and Cregon Agricultural Experiment Station 209 S. W. 5th Avenue Portland 4, Oregon

Issued by:

Harold E. Tower State Conservationist Soil Conservation Service F. Earl Price
Director
Oregon Agricultural Experiment Station



Number Mane Location Mev. Sec. Pap. Rge.	## STANTH RIVER BASIM (Cont.d.) 2002
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Number Name Location Elev. Sec. Np. Rge.	UPPER COLUMBIA ORANNAGE 1885 1887 18



PRELIMINARY WATER SUPPLY OUTLOOK FOR OREGON

February 1, 1956

Water supply outlook for Oregon varies from "good" to "excellent" with reservoired water supplies already adequate or reasonably assured by snow-melt yet to come.

- SNOW-COVER: Water content of mountain snow-cover averages 145 percent normal on 84 measured snow courses. This year's snow is 168 percent of last year's. Above 5,000 feet the snow-cover is now nearly double the normal amount. Below 5,000 feet the snow is 135 percent normal. In many areas the snow-cover already equals the usual total accumulation for the winter.
- SOIL MOISTURE: Soils of mountain watersheds throughout the state, extremely dry at the beginning of the winter season, are now thoroughly wetted. Reports from 23 soil moisture stations show water has penetrated in all cases beyond a depth of three feet.
- RESERVOIRED WATER: Stored water in 23 important Oregon reservoirs is
 46 percent greater than last year and 16 percent greater than the
 15-year average (1938-52). With an average snow accumulation for
 the balance of the winter, most reservoirs are assured an adequate
 inflow of snow-melt water. A few irrigation reservoirs are reported to be spilling water to make room for inflow yet to come.
- PRECIPITATION: Winter precipitation (December and January) has been nearly double normal throughout the state. Together with the above normal fall precipitation it adds up to good prospects.
- STREAMFLOW: Outlook for spring and summer streamflow is "good" to "excellent" assuming average winter conditions occur the balance of the season.

Streamflows are forecast to be average or above except for the Crooked River drainage where inflow to Ochoco Reservoir is estimated to be 82 percent of the 1938-52 average and flow of the main river is forecast at 89 percent average. Forecasts for 66 Oregon streams are published on pages 2-6 of this report.

January streamflow throughout the state was much above normal.² Coupled with much above normal streamflow during October-December these flows indicate well primed watershed soils and excellent contributions to reservoired water supplies.

1From preliminary data furnished by U. S. Weather Bureau, Portland, Oregon.

²From preliminary data furnished by U. S. Geological Survey, Portland, Oregon.



The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature during the forecast period will be near average. Appreciable deviations from normal of temperature and/or precipitation during the forecast period will correspondingly modify these forecasts.

Seasonal Streamflow in Thousands of Acre Feet									
Basin, Stream	Forecast	15 - Yr.							
and	Runoff	% 15 - Yr.	Fore- cast	Measured	Dunoffx				
Station	1956	Avg.	Period	1954	1953	Average 1938-52			
D Ca CIOII	1950	Avg.	rentod	1904	1900	1930-32			
		HPPER CO	LUMBIA BASI	ΓN					
			WAKE IN OREC						
Owyhee River Basin									
Owyhee Reservoir	670.0	118	Mar-July	137.5	332.0	569.5			
net inflow 1									
Malheur River Basin		~ \ ~							
Malheur River,	115.0	141	Apr-Sept.	44.4	106.4	81.5			
nr. Drewsey Malheur River, N.Fk.,	88.0	138	A . C . 1	الام	90. ((2.0			
at Beulah ²	00.0	٥٦	Apr-Sept.	45.9	89.6	63.9			
at Declair									
Burnt River Basin									
Burnt River,	57.0	136	Apr-Sept.	23.0	61.4	41.8			
nr. Hereford3	- '		r · · · · ·						
Powder River Basin									
Powder River,	79.0	125	Apr-Sept.	39.9	93.0	63.4			
at Salisbury									
Grande Ronde River									
Basin									
Imnaha River	400.0	132	Apr-Sept.	253.7	359.9	303.4			
at Imnaha	4		ubi-pebe.	275.1	227.7	303.4			
Wallowa River, E.Fk.,	14.0	125	Apr-Sept.	11.3	14.4	11.3			
nr. Joseph ⁴			r - r						
Hurricane Creek	53.0	118	Apr-Sept.	43.1	56.9	45.1			
nr. Joseph			•						
Lostine River,	149.0	121	Apr-Sept.	118.5	141.8	123.5			
nr. Lostine	02.0	7.00							
Bear Creek, nr. Wallowa	83.0	120	Apr-Sept.	63.9	70.8	69.1			
Catherine Creek	87.0	122	A C	50 6	0(7	mn n			
nr. Union	07.0	1.4.4	Apr-Sept.	50.6	96.1	71.1			
Grande Ronde River	215.0	122	Apr-Sept.	122.3	234.9	176.9			
at LaGrande				144 •)	<i>4)</i> 4• <i>7</i>	110.7			

^{*}Discharge data from preliminary records of U. S. Geological Survey and Oregon State Engineer. 1955 records not available at this time. From U.S.B.R. records of inflow.

Observed flow / change in storage in Agency Valley Reservoir
Observed flow plus change in storage in Unity Reservoir

⁴Includes power plant tailrace. cRecords not available.



Streamflow Forecasts	- February	1, 1956 (Cont'd.)	Thomanda	of Acres	Foot
Darin Charam	Forecast	asonal Sur	Fore-	mousanus	OI ACTE	15 - Yr.
Basin, Stream	·	15-Yr.	cast	Measured	Punoff	Average
and	Runoff	=	Period	1954	1953	1938-52
Station	1956	Avg.	rentod	1774	1773	1930-72
		LOWER CO	DLUMBIA BASI	IN .		3
Umatilla River Basin Umatilla River, nr. Gibbon	92.0	106	Apr-Sept.	72.6	94.0	86.8
Umatilla River, at Pendleton	180.0	108	Apr-Sept.	117.7	197.9	167.4
McKay Creek nr. Pilot Rock	28.0	101	Apr-Sept.	17.0	41.2	27.8
Walla Walla River Basin Walla Walla R.,So.	72.0	102	Apr-Sept.	- 66 . 4	74.2	70•5
John Day River Basin Strawberry Cr. nr. Prairie City	9•7	117	Apr-Sept.	7.7	11.1	8.3
John Day River at Prairie City	68.0	135	Apr-Sept.	42.5	61.5	50.4
John Day River, Mid.Fk. at Ritter	170.0	140	Apr-Sept.	92.8	165.3	121.7
John Day River, N.Fk., nr. Dale	335.0	135	Apr-Sept.	229.7	333.8	248.4
Crooked River Basin Crooked R., nr. Post	110.0	89	Apr-Sept.	70.5	173.6	124.2 ^d
Ochoco Res., net	23.0	82	Apr-Sept.	18.6	38.0	28.0
Deschutes River Basin Crescent Creek at Crescent Lake 7	27.0	127	Apr-Sept.	43.0	40.9	21.2
Little Deschutes R., nr. Lapine 7	94.0	105	Apr-Sept.	134.4	138.3	89.6
Odell Cr., nr. Crescent	33.0	113	Apr-Sept.	37.5	37.1	29.2
Deschutes River, below Snow Creek	77.0	127	Apr-Sept.	80.8	75.0	60.4
Crane Prairie Res.	144.0	119	Apt-Sept.	149.9	148.1	120.6

^{*}Discharge data from preliminary records of U. S. Geological Survey and Oregon State Engineer. 1955 records not available at this time. Observed flow / Prairie Power Canal.

Observed flow / Frairie Tower Canal.

Observed flow of Ochoco Cr. / Canal / changes in storage of Ochoco Res.

Observed flow / changes in storage of Crescent Lake Reservoir.

⁶From State Engineer's file #3220a, tabulating total inflow to Crane Prairie Reservoir and outflow, showing the loss in the Reservoir. ^cRecords not available.

d₁₉₃₈₋₃₉ excepted.



Streamflow Forecasts	- February	1, 1956 (Cont'd.)			-
			eamflow in	Thousands	of Acre	
Basin, Stream	Forecast	7,7	Fore-	Nf	D &&v	15 - Yr.
and	Runoff	15-Yr.	cast		Runoff*	Average 1938 – 52
Station	1956	Avg.	Period	1954	1953	1930-32
Deschutes River Basir (Continued)	<u>1</u>					
Deschutes River at Benham Falls	560.0	110	Apr-Sept.	697•9	661.2	511.0
Tumalo Creek nr. Bend ¹⁰	55.0	114	Apr-Sept.	59.8	61.3	48.3
Squaw Creek, nr. Sisters	57.0	116	Apr-Sept.	С	57.8	49.3
White River, below Tygh Valley	195.0	128	Apr-Sept.	176.3	159.8	152.0
Hood River Basin Hood River, W. Fk., nr. Dee	180.0	123	Apr-Sept.	197.8	138.9	146.9
Hood River, nr. Hood Riverll	380.0	124	Apr-Sept.	399.4	314.5	306.1
Willamette River Basi	in					
Row River, nr. Dorene	106.0	106	Apr-Sept.	c	146.3	100.5
McKenzie R., at McKenzie Bridge	665.0	118	Apr-Sept.	668.8	658.1	564.7
McKenzie River, nr. Vida	1400.0	117	Apr-Sept.	1336.4	1465.2	1194.7
South Santiam, at Waterloo	670.0	120	Apr-Sept.	592.6	729.9	558.0
North Santiam at Mehama12	990.0	118	Apr-Sept.	955.4	792.9	841.5
Willamette River at Salem ¹²	5500.0	126	Apr-Sept.	4902.3	6085.7	4354.5
Clackamas River, at Big Bottom	190.0	116	Apr-Sept.	201.3	167.6	163.6
Oak Grove Fk. abv. Power Intake	210.0	113	Apr-Sept.	217.8	196.0	185.7
Clackemas River abv. Three Lynx	630.0	105	Apr-Sept.	722.7	627.6	599•3
Clackamas River nr. Cazadero	830.0	107	Apr-Sept.	932.4	827.8	777.2

^{*}Discharge data from preliminary records of U. S. Geological Survey and Oregon State Engineer. 1955 records not available at this time.

Crescent Lake Reservoirs.

⁹⁰bserved flow / changes in storage in Crane Prairie, Wickiup and

¹⁰⁰bserved flow / Columbia Southern Canal.

¹¹ Observed flow plus P.P. & L. Co. power canal.

¹²⁰bserved flow / changes in storage in any of the following reservoirs which are above the station: Lookout Point, Detroit, Fern Ridge, Cottage Grove c and Dorena. Records not available.



Streamflow Forecasts - February 1, 1956 (Cont'd.)

Streamflow Forecasts - February 1, 1956 (Cont'd.)										
			eamflow in	Thousands	of Acre					
Basin, Stream	Forecast	%	Fore-		7	15 - Yr.				
and	Runoff	15-Yr.	cast	Measured		Average				
Station	1956	Avg.	Period	1954_	1953	1938-52				
	OREGON AND	CALIFORN	TA COAST BA	SINS						
Umpqua River Basin No. Umpqua River, below Lake Creek	164.0	100	Apr-Sept.	218.0	212.4	164.0				
Clearwater River, above Trap Creek	64.0	100	Apr-Sept.	86.2	81.3	64.2				
Rogue River Basin										
Hyatt Res, net Inflow 13	6.9	115	Apr-Sept.	6.4	9.6	6.0				
Fourmile Lake, net Inflow14	10.2	146	Apr-Sept.	c	2.3	7.0				
Little Butte Cr.N.F. below Fish Lakel5	20.6	138	Apr-Sept.	С	21.0	14.9				
Rogue R. So. Fk., nr. Prospect16	85.0	112	Apr-Sept.	78.4	92.6	76.1				
Rogue R. Mid. Fk., nr. Prospect17	79.0	106	Apr-Sept.	83.0	93.8	74.3				
Rogue River, above Prospect	345.0	109	Apr-Sept.	375.1	416.4	316.5				
Rogue River, below South Fork	730.0	107	Apr-Sept.	741.2	885.9	680.8				
Rogue R., at Raygold, nr. Central Point	990.0	109	Apr-Sept.	987.3	1276.2	905.6				
Rogue River, at Grants Pass	950.0	111	Apr-Sept.	967.9	1257.9	852.8 ^d				
Applegate River,	180.0	155	Apr-Sep t.	154.7	185.5	116.0 ^d				
nr. Copper Illinois River, at Kerby	215.0	119	Apr-Sept.	191.7	330.9	181.2				

^{*}Discharge data from preliminary records of U. S. Geological Survey and Oregon State Engineer. 1955 records not available at this time.

¹³⁰bserved flow of Keene Creek at Hyatt Prairie / storage changes / 1600 a.f., for estimated evaporation during April-September period.

^{14.} Observed outflow into Cascade Canal / storage changes / 1600 a.f. for

estimated evaporation during April-September period.

15 Observed flow plus changes in storage in Fish Lake Reservoir / 90% of Cascade Canal inflow.

Cascade Canal inflow.

160bserved flow / South Fork Power Canal.

170bserved flow / Middle Fork Power Canal.

CRecords not available. d1938 excepted.



Streamflow Forecasts - February 1, 1956 (Cont'd.)												
			eamflow in	Thousands	of Acre							
Basin, Stream	Forecast	%	Fore-			15 - Yr.						
and	Runoff	15-Yr.	cast	Measured		Average						
Station	1956	Avg.	Pericd	1954	1953	1938-52						
Klamath River Basin				- ·								
Sprague River,	300.0	119	Apr-Sept.	351.1	394.5	252.6						
nr. Chiloquin												
Williamson River,	480.0	119	Apr-Sept.	643.0	650.2	406.0						
below Sprague R.												
Upper Klamath Lake,	625.0	119	Apr-Sept.	834.5	893.8	525.6						
net Inflow18												
Clear Lake Res.,	125.0	145	Mar-July	66.9	79.7	86.3						
net Inflow												
Gerber Res.,	65.0	155	Mar-July	42.0	Lili e O	42.0						
net Inflow			. •									
GREAT BASIN												
		INTERIOR	DRAINAGE									
Goose Lake Pasin												
Drew Reservoir,	44.0	100	Mar July	53.0	53.7	44.2 ^d						
net Inflow				75								
1100 -111 11000												
Warner Lake Basin												
Twentymile Cr.,	27.0	128	Apr-June	8.9	20.0	21.1 ^e						
nr. Adel	21.00		1101 - 0 allo	0.,	20.0							
Deep Cr.,	100.0	149	Apr-June	56.0	82.0	67.2						
above Adel	100.0	-47	npr-ounc	70.0	02.0	0102						
Honey Cr.,	23.0	147	Apr-June	13.7	17.0	15.6 ^f						
nr. Plush	٠,٠٠		whia mie	10.1	17.0	17.0						
III. LIUSII												
Malhour and Harras												
Malheur and Harney												
Lakes Basin	7.00.0	08	Amer Com t	לז פ	728 7	7.00 2						
Silvies River,	100.0	98	Apr-Sept.	51.7	138.1	102.3						
nr. Burns												

^{*}Discharge data from preliminary records of U. S. Geological Survey and Oregon State Engineer. 1955 records not available at this time.

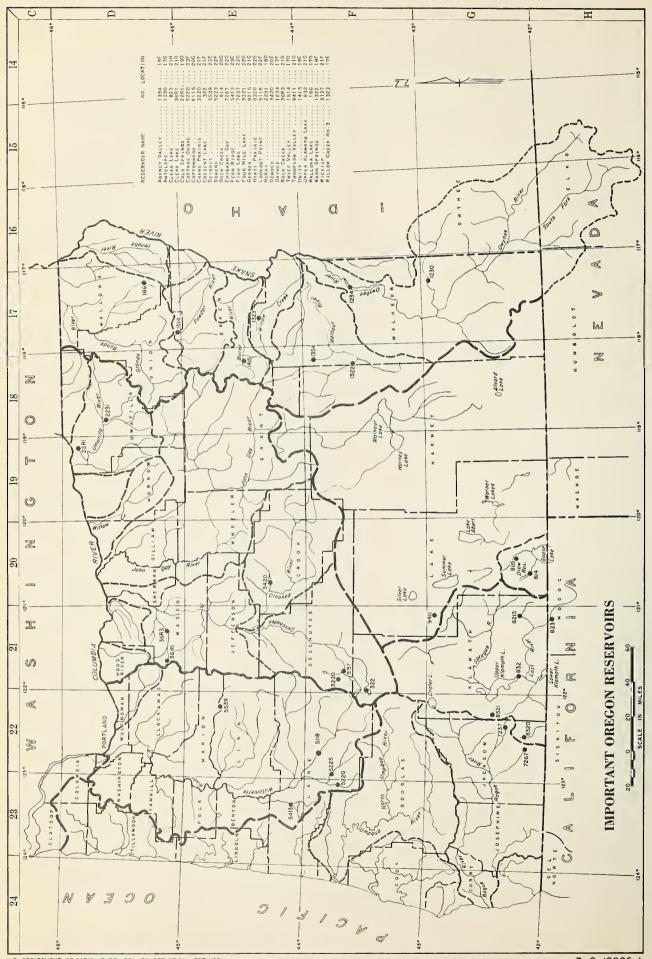
18 From COPCO records of inflow.

CRecords not available.

d1942-43 and 1945 excepted.
e1938-40 excepted.
f1942 excepted.







BASIN		USABLE	USABLE STORAGE - 1000 ACRE FEET						
and/or STREAM	RESERVOIR	CAPACITY 1000s AF	1956	1955	1954	15-Yr.Avg. 1938-52			
		PER COLUMB ower Snake							
<u>Owyhee</u>	Antelope Owyhee	36.5 715.0	18.1 291.2	N.R. 169.9	N.R. 419.7	4.0 ^b 456.4			
Malheur	Warm Springs Agency Valley	191.0 60.0	42.8 19.3	23.1 20.4	110.9	70.9 32.9			
Burnt	Unity	25.2	12.4	3.5	3.6	8.3°			
Grande Ronde	e Wallowa Lake	١,0.9	24.8	17.8	33.1	19.4			
	LOWE	R COLUMBIA	DRAINAG	E					
Umatilla	McKay Cold Springs	74.0 50.0	48.0 35.3	9.0 18.0	31.2 29.4	34.5 29.6			
Deschutes	Ochoco Crescent Lake Crane Prairie Wickiup	46.0 54.9 55.3 203.0	30.8 36.8 48.0 137.0	21.7 24.3 45.1 198.3	33.8 45.6 47.7 191.0	18.9 39.8 ^d 34.1 ^e 95.3 ^f			
Willamette	Cottage Grove Dorene Fern Ridge Detroit Lookout Pt.	30.1 ^a 70.5 ^a 94.2 ^a 340.0 ^a 350.0 ^a	0.0 0.6 1.0 10.2 5.4	0.2 0.6 1.0 2.0 12.1	4.9 16.3 78.0 61.8	0.1 ^f 15.2 ^g 			
	OREGON AND	CALIFORNI	A COAST	DRAINAGE					
Rogue	Fish Lake Fourmile Lake Emigrant Gap Hyatt Prairie	7.8 16.1 8.3 16.1	4.5 6.4 7.9 5.0	5.4 9.3 1.4 9.7	6.6 15.6 8.3 12.2	4.4 6.7 5.1 4.8			
Klamath	Upper Klamath L. Gerber Clear Lake			27.2	428.2 45.4 248.7	340.3 31.3° 189.8°			
		INTERIOR	DRAINAGE						
Goose Lake	Cottonwood Drew	4.1 62.5	2.9 62.5	24.3	0.4 37.5	0.1 ^h 35.2 ⁱ			
control.	ace reserved for f	lood	f1950 e f1938-4 g1938-4 h1942 e	xcepted xcepted 2 excepted 1 excepted xcepted xcepted	ed ed				



The following tabulation of Oregon stream basins presents the water content

of the snow about February 1, 1956, as percent of the same date in 1955 and 1954 and average. Yrs. No. of February 1, 1956 Water Courses of Content as percent of Averaged Record 1955 1954 1938-52

Average DRAINAGE 1938-52 Average

 PPER COLUMBIA DRAINAGE (Lower Snake in Oregon)

 Owyhee River
 2 - 6
 14
 181
 160

 Malheur River
 4 - 5
 15
 189
 118

 Burnt River
 4 13 - 15
 198
 124

 Powder River
 6 5 - 14
 229
 118

 Pine Creek
 1 15
 263
 146

 Imnaha River
 2 14 - 15
 263
 121

 Grande Ronde River
 9 - 10
 6 - 15
 192
 116

 Wallowa River
 2 14 - 15
 263
 121

 Catherine Creek
 1
 15
 180
 115

 Main Grande Ronde
 6 - 7
 6 - 15
 164
 113

 UPPER COLUMBIA DRAINAGE (Lower Snake in Oregon)
 OWER COLUMBIA DRAINAGE

 Walla Valla River
 1
 15
 157
 98

 Umatilla River
 4 - 5
 14 - 15
 135
 109

 Willow Creek
 1
 14
 183
 120

 John Day River
 9 - 12
 6 - 15
 199
 118

 North Fork
 6
 6 - 15
 196
 116

 Middle Fork
 3
 14 - 15
 214
 127

 Main Branch
 1 - 3
 15
 199
 103

 South Fork
 1
 15
 191

 Crooked River
 3
 14 - 15
 167
 84

 Deschutes River
 6 - 12
 5 - 15
 182
 97

 Hood River
 5
 7 - 14
 157
 93

 Willamette Valley
 11 - 21
 7 - 15
 145
 85

 Sandy River
 2 - 3
 14
 174
 97

 Clackemas River
 3
 13 - 15
 152
 86

 McKenzie River
 3
 10 - 15</t LOWER COLUMBIA DRAINAGE
 Mary's River
 Snow surveys delayed.

 OREGON AND CALIFORNIA COAST DRAINAGE

 Umpqua River
 14 - 6
 7 - 15
 1143

 Rogue River
 18 - 19
 6 - 15
 164

 Upper Rogue
 7 7 - 15
 165

 Bear-Little Butte Creek
 6 - 7
 6 - 15
 197

 Applegate River
 2 - 4
 13 - 15
 156

 Illinois River
 2 - 3
 14
 130

 Klamath Lake Basin
 17 - 19
 8 - 15
 184

 Williamson River
 9
 8 - 15
 199

 Sprague River
 4
 14 - 15
 175

 Gerber-Clear Lake Basin
 1 - 2
 14
 115

 INTERIOR DRAINAGE
 1 - 2
 14
 115
 143 00 164 92 98 INTERIOR DRAINAGE Goose Lake Basin Warner Lake Basin **03** 190 Silver Lake Basin Chewaucan River

Harney Basin



<u>On</u>	MOON DIV.	W DOILV	DIO - AD	001 1111	MONICE I	, 1700			
					W COVER				
DRAINAGE BASIN	No.		Date	1956 Snow	Water		Conten		Previous
and	or		of	Depth	Content	:	1	938-52	Yrs. of
SNOW COURSE	State	Elev.	Survey	(In.)	(In.)	:1955	1954`	Avg.	Record
<u>U</u> <u>P</u>	PER	C O L LOWER	UMBI SNAKE I		RAIN ON	AGE			
OWYHEE RIVER									
*Bear Creek Upper Jack Creek 76 Creek *Fox Creek Lower Jack Creek *Rodeo Flat Big Bend *Fry Canyon Gold Creek Silver City South Mountain No.2 Taylor Canyon *Tremewan Ranch Cliffs Lowery Ranch	15H1 16H2 15H3 15H2 16H1 15H6 15H4 15H7 15H5 16F3 16G1 15H9 15H8 16G2 16G3	7800 7250 7100 6800 6800 6700 6700 6600 6400 6340 6200 5700 5200 4800	2-1 2-3 Not sur 2-1 2-3 1-31 2-1 1-29 2-1 2-3 Not sur Not sur	24 14 25 36 29 22 46 42 24 veyed.	18.0 7.5 6.3 3.2 7.0 11.2 7.8 6.8 12.4 11.6 7.9	5.2 	4.6 5.2 4.5 3.2 11.1	10,2%	
MALHEUR PIVER									
Blue Mtn. Spgs. Rock Spring Stinking Water Eldorado Pass	18F16 18F1 18F4 18E20	5900 5100 4800 4600	2-3 1-27 1-30 1-31	51 31 23 17	14.6 7.3 4.4 3.0	7.0 3.6 3.9	14.2 5.4 	10.2 4.3 3.6	24 20 17 0
BURNI RIVER			- '						
Dooley Mountain *Gold Center Tipton Blue Mtn. Summit Eldorado Pass	17E1 18E8 18E9 18E13 18E20	5430 5340 5100 5098 4600		31 44 43 38 17	7.5 10.7 11.4 9.1 3.0	4.6 5.4 5.7 3.8	5.1 11.6 7.4 7.1	6.6; 8.4; 7.4; 6.1	16 ★
POWDER RIVER									
Anthony Lake Goodrich Lake Bourne Dooley Mountain Eilertson Meadows *Gold Center	18E1 18E6 18E5 17E1 18E3 18E8	7125 6775 5800 5430 5400 5340	1-27 1-31 1-28 1-26 1-30 1-29	75 91 56 31 36 44	26.5 32.9 15.7 7.5 9.4 10.7	11.8 10.5 7.8 4.6 4.8 5.4	20.6 27.4 13.5 5.1 8.5 11.6	19.1÷ 29.2÷ 9.6÷ 6.6÷ 8.1÷ 8.4÷	** 7 ** 16 ** 17 ** 16
PINE CREEK									
Schneider Meadows	17D8	5400	2-1	88	32.6	12.4	22.4	20.5	18

^{*}Not located directly on this drainage area.

**Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.

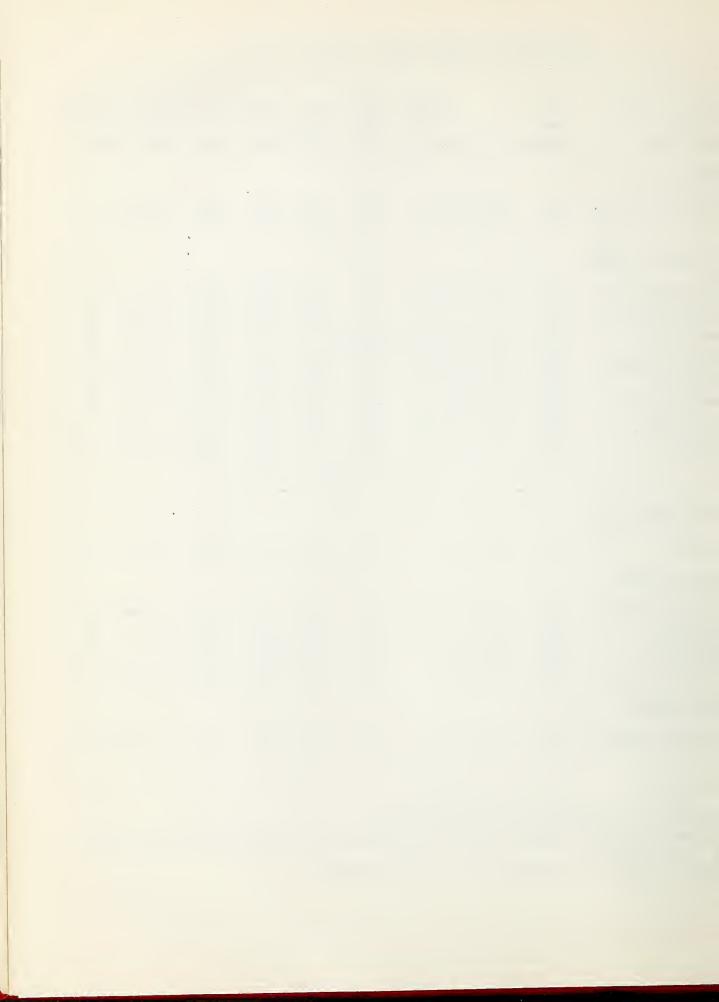


						M COAEL		REMENTS		
	DRAINAGE BASIN	No.		Date	1956 Snow	Water		Past Re	t(In.) Pr	evious
	and	or		of		Content			938-52 Yr	
	SNOW COURSE	State	Elev.	Survey	(In.)		:1955	1954		cord
•	IMNAHA RIVER									
	*Aneroid Lake No. 1 *Aneroid Lake No. 2	17D1 17D2	7480 7000	1-28 1-28	100 74	33.4 26.1	12.8 9.8	28.5 20.5	22 .4 19.2**	25 14
	GRANDE RONDE RIVER									
	Aneroid Lake No. 1 Anthony Lake Aneroid Lake No. 2 Camp Carson	17D1 18E1 17D2 18D11	7480 7125 7000 5970	1-28 1-27 1-28 Survey	100 75 74 delayed	33.4 26.5 26.1	12.8 11.8 9.8	28.5 20.6 20.5 9.5	22.4 19.1** 19.2** 7.3**	25 15 14 12
	Moss Spring Beaver Reservoir Tollgate	17D6 18D9 18D3	5850 5340 5070	2-1 1-28 2-2	69 43 65	20.9 10.3 21.4	11.6 5.2 13.6	18.2 9.4 21.8	15.5 8.5** 16.9	18 17 24
ż	Lucky Strike County Line Schoolmarm Meacham	18D6 18D8 18D7 18D5	5050 4800 4775 4300	1-27 1-30 1-30 2-3	47 30 25 30	11.6 5.6 5.0 8.0	6.1 4.4 4.5 8.2	8.9 5.4 5.1 7.0	8.4** 3.0** 6.1	16 4 8 27
		LOWE	-		_			·	0.1	<u>~ 1</u>
	WALLA WAILA RIVER							action		
	Tollgate	18D3	5070	2-2	65	21.4	13.6	21.8	16.9	24
	UMATILLA RIVER									
	Arbuckle Mountain Tollgate Lucky Strike Meacham	19D2 18D3 18D6 18D5	5400 5070 5050 4300	1-31 2-2 1-27 2-3	46 65 47 30	11.0 21.4 11.6 8.0	6.0 13.6 6.1 8.2	9.2 21.8 8.9 7.0	7.6** 16.9 6.1	26 24 16 27
	Emigrant Springs WILLOW CREEK	18D4	3925	2-3	24	5•3	8.5	5,8	5.3	27
	Arbuckle Mountain	19D2	5400	1-31	46	11.0	6.0	9.2	7.6**	26

^{*} Not located directly on this drainage area.

Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.

CWater content not measured due to loss of equipment.



				SN0 1956	OW COVER		REMENTS Past Re		
DRAINAGE BASIN	No.		Date	Snow	Water				Previous
and	or		οţ		Content	; :	1	938-52	
SNOW COURSE	State	Elev	Survey	(In.)	(In.)	:1955	1954	Avg. 1	Record
JOHN DAY RIVER									
*Anthony Lake Olive Lake Blue Mtn. Springs Arbuckle Mountain Gold Center *Izee Summit Starr Ridge Tipton Blue Mtn. Summit *Lucky Strike Beech Creek Summit Schoolmarm	18E1 18E7 18E16 19D2 18E8 19E9 19E7 18E9 18E13 18D6 19E2 18D7	7125 6000 5900 5400 5340 5293 5156 5100 5098 5050 4800 4775	1-27 1-30 2-3 1-31 1-29 2-1 2-1 2-2 1-31 1-27 2-2 1-30	75 63 51 46 44 35 31 43 38 47 23	26.5 18.0 14.6 11.0 10.7 8.6 7.5 11.4 9.1 11.6 5.4 5.0	11.8 8.5 7.0 6.0 5.4 4.5 3.0 5.7 3.8 4.5	20.6 15.7 14.2 9.2 11.6 7.4 7.1 8.9	19.1% 11.4 10.2 7.6% 8.4% 6.0 4.3 7.4% 6.1 8.4% 4.3 3.0%	20 24 * 26 * 16 19 19 * 19 21 * 16
CROOKED RIVER Derr Ochoco Meadows Mark's Creek	19E3 20E2 20E1	5670 5200 4540	1-30 2-1 1-31	38 36 18	7.8 8.6 3.5	4.7 4.4	9•7 7•9 6.0	6•7 7•9∺ 3•9	
DESCHUTES RIVER	2001	4)40	1-)1	10	J., J.	2.00	0.0	J•7	10
New Dutchmen Flat Paulina Lake Windigo Pass Charlton Lake Three Creeks Mdws. Willamette Pass Irish-Taylor *Waldo Lake Tangent Fire Road Cascade Summit New Crescent Lake *Chemult Crescent Lake Hogg Pass Black Pine Spg. Caldwell Ranch Hungry Flat Paulina Prairie Clear Lake	21F2 21F13 22F15 21F7 21E13 22F14 21F6 22F2 21F3 21F14 22F3 21F10 21F11 21F9 21E6 21E11 21F8 21E14 21F15 21D12	6400 6330 5800 5750 5600 5500 5500 5400 5400 4880 4760 4760 4460 4400 4400 4285 3500	1-27 2-2 2-3 2-1 1-28 2-3 2-1 1-31 1-27 2-2 2-1 2-4 1-31 2-4 2-1 1-28 2-2 1-27 2-2 1-30	119 60 118 79 79 84 80 51 42 106 19 27 87	43.8 18.7 41.3 27.7 19.1 35.9 34.6 28.0 25.2 9.4 29.2 17.3 13.5 14.6 37.4 6.0 12.4 8.4 1.7	23.8 9.6 21.1 16.4 9.2 20.8 20.1 16.6 10.5 4.8 16.9 5.7 10.0 22.1 2.7 7.2 4.4 3.0 5.2	51.2 40.7 26.3 19.0 38.7 33.9 26.6 25.3 30.3 15.6 12.5 15.0 39.4 10.2 12.7	13.2* 11.2* 14.6* 22.9 20.5 8.4 8.3* 27.4	* 23 6 14 * 9 4 15 3 19 * 18 18

*Not located directly on this drainage area.

^{**}Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.



01	Official Control of the control of t									
	· · · · · · · · · · · · · · · · · · ·			SNO	OW COVER	MEASU:	REMENTS			
DD 4 T114 GD D 4 GD14				1956			Past Re			
DRAINAGE BASIN and	No.		Date of	Snow	Water Content		Conten	t(In.) Pr 938-52 Yr	evi.ous	
SNOW COURSE	or State	Elev.	Survey		(In.)				cord	
HOOD RIVER			<u> </u>							
Tilly Jane	21D7	6000		93		21.3	41.9	37.9**	8	
Red Hill Greenpoint Res.	21DL 21D1	4400 3400	1-29 1-28	108 79	39.3	33.1 8.8	43°8 50°7	19.0**	7 8	
WILLAMETTE VALLEY S	TREAMS									
SANDY RIVER ¹										
Phlox Point Still Creek	21D8 21D9	5600 3700	1-31 2-1	134 68	51.8	32.7 13.5	53.8		18 18	
*Clear Lake	21D ₁ 2	3500		47	14.3			 0.4xx	5	
CLACKAMAS RIVER										
*Clear Lake Peavine Ridge	21D14	3500 3500	1-30 1-27	47 51		5.2 9.5	12.7 19.8	12.0	5 18	
Timothy Meadows		3200	1-27	717	10.9	7•2			0	
Big Bottom	21D15	3118		survey		4.3	9.8		5 5	
Lake Harriet Snow Line: Approxi	21D16 mately 50	2045);	1-28	8	T	2.5	8.8	DB: eve	5	
SANTIAM RIVERS										
Hogg Pass	21E6	4755		106	37.4		39.4		18	
Santiam Junction Marion Forks	21E5 21E4	3990 2730		63 36	20.9	14.7 8.8	24.6 16.8		15 15	
Whitewater Bridge	21E3	2175	2-1	19	6.0	Ji• 0	8.5	alle em	6	
Detroit (new town) Detroit Dam	22E1 22E2	1500/ 1580		8 9	1.7			Carp were	6	
Mill City		826		8 T	1.3 T	0.0	1.0		6	
Snow Line: Approxi				_	_		3.3		. •	
McKENZIE RIVER										
McKenzi e Hogg Pass	21E7 21E6	4800 4755	1-29 2-1	100 106		25.0 22.1	37.0 39.4	26.4** 27.4	12 18	
Santiam Junction	21E5	3990	2-1	63		14.7	24.6	18.6**	15	
Dead Horse Grade	21E8	3800	-	54	15.5	14.1	21.7		6	
White Branch Slide Lost Creek Ranch	21E9	2800 1956	•	24 18	5.9 3.8	5.7 3.5	8.8 6.7	200 UM	7 4	
McKenzie Bridge	22E5	1372	1-29	3	0.5	0.0	T	pag 450	7	
Vida Snow Line: Approxi	22E6	800	1-29	T	T	0.0	0.0	eu	6	
PIOM TITLE & WDDI.OXI	mareTA O(

*Not located directly in this drainage area.

Not strictly a part of the Willamette Drainage; these surveys are indicative of west slope conditions.

^{**}Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.



01	maon one		DIO - 111	7001 1 11111	O11101 1	.,			رــ
	SNOW COVER MEASUREMENTS								
		Date Snow Water :Water Content(In.) P							
DRAINAGE BASIN	No.		Date				Conten	t(In.) P	reviou
and SNOW COURSE	or State	T-7 -77	of Survey	Depth C (In.)				938-52 Y Avg. R	ecord
SHOW COORSE	State	ETEA.	burvey	(111.)	(2110)	*1900	1754	Avg. It	ecora
MIDDLE FORK WILL	METTE RI	VER							
*Charlton Lake	21F7	5750	2-1	79	27.7		26,3	13.2**	8
Willamette Pass	22F14	5600	2-3	94	35.9		38.7	on on	6
Waldo Lake	22F2	5500	1-31	84	28.0	16.6	26.6	14.6**	9
Cascade Summit	22F3		2-1	80	29.2		30.3	20.4	25
Champion	22F9	4500		53	21.0		30.8	17.0**	
Salt Creek Falls	22F4	7000	2-1	40	14.4		16.8		6
Railroad Overpass	22F5	2750		5	0.8	3.8	6.2	***	6
McCredie Spring	22F6	2120		1	T	1.0	2.0	grot una	6
Oakridge	22F7	1310	2-1	0	0.0	0.0	0.0	aug. 148	6
Meridian Dam Snow Line: Approxi	22F8	750	2-1	0	0.0	0.0	0.0	e1 —	5
••	· ·								
COAST FORK WILLAMETTE RIVER (Row River)									
Champion	22F9	4500	2-1	53	21.0	22.0	30.8	17.0%	17
Golden Curry Cr.	22F10	3136	2-1	11	2.4	6.0	8.0	ess	6
Weaver Creek	22F11	2440	2-1	5	0.5	2.2	4.4	945	5
Lund Park	22F12	1740	2-1	1	T	T	3.3	an wa	5 6
Layng Creek R.S.	22F13	1200	2-1	0	0.0	0.0	0.0	gain tegs	7
Snow Line: Approxi	mately 1	5001							
MARY'S RIVER									
Mary's Peak	23El	3 620	Survey	delayed.		8.3	10.4	5.8**	13
OREGON A	ир с	ALI	FORN	IA CO	ASI	DR.	AINA	GE	
UMPQUA RIVER		_							
Windian Pone	ດດກາປ	5800		770	12.0	07 7	1.0 8		م
Windigo Pass Diamond Lake	22F15 22F18	5315	2-3	118	41.3	21.1	40.7	71. 0	5
Whaleback	22F10 22G1	5140	2 - 1 1 - 29	60 86	20.3	12.2	25.6	14.8	26 16
Champion	22F9	4500	2-1		31.4	19.1	33.1	23.8**	
North Umpqua	22F16	4215	2-7	53	21.0	22.0	30.8	17.0**	
Trap Creek	22F17	3800	2-7	<u>4</u> 2	14.4	10.2	16.3	8.2**	9
Goolaway Mtn.	23G2	3780	1-27	33 22	9.8	6.0	E-4 	10.3**	
Goolaway Gap	23G1	3050	1-27	9	4.0	2.8		4.3** 1.8**	
		J0J0	₁		2.0	2,0		TOOKY	ملوطه
ROGUE RIVER									
Wagner Butte	22G18	6900	1-26	42	11.0	7.9	19.4	10.6	19
Seven Lakes No. 1	22G10	6800	1-29	127	50.9	29.8	51.0	21,2**	
Big Red litn.	22G21	6500	1-31	87	25.4		29.6	18.1**	17
Little Red Mtn.	22G22	6500	2-1	94	29.6		23.9	12.2**	
*Park Headquarters	22G5	6450	1-30	132	50.2		43.5	38.2**	10
Scragg Mountain	22H1	6200		surveyed			30.4	18.2**	
Seven Lakes No. 2	22 Gll	6200	1-29	100	31.8	22.7	33.6	18.7**	12
*Not located direc	tly on t	his dr	ainage a	rea.					

**Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.



			SNOW COVER MEASUREMENTS										
				1956	W COVER		REMENTS Past Re		ard				
DRAINAGE BASIN	No.		Date		Water			t(In.)	Previou				
and	or		of		Content			938-52					
SNOW COURSE	State	Elev.	Survey	(In.)	(In.)		1954		Record				
ROGUE RIVER (Contic	d.)												
*Annie Spring	22G6	6018	1-30	109	42.0	21.0	37.5	27.6×					
*Fourmile Lake	22G12	6000	1-31	75	31.6	9.4	26.4	21 2	3				
Grayback Peak Billie Cr. Divide	23G3 22G13	6000 5300	1-30 1-31	82 70	27.1 26.5	16.6 12.1	29.4	14.1** 13.8**					
Whaleback	22G1	5140	1-29	86	31.4	19.1	21.3	23.8%					
Hobart Lake	22G17	5010	1-25	13	2.8	2.4	11.5	6.3×					
*Hyatt Prairie Res.	22G16	4900	1-24	25	8.0	4.7	11.4	6.5	21				
Fish Lake	22G14	4865	1-30	37	12.8	8.9	14.6	7.8*					
Siskiyou Summit	22G2O	4630	1-29	20	5.6	4.4	16.7	5.5	19				
Althouse	23GL	77700	1-31	16	2.7	3.1	10.1	4.2%					
Page Mountain	23G5	4045	1-31	15	1.6	4.4		F# 405	1				
Oregon Caves Silver Burn	23G6 22G2	<u>1</u> 000	Not sur		77.0	2.4	300	0.1	1				
Goolaway Mtn.	23G2	3720 3780	1-31 1-27	33 22	11.2	9•3 6•0	17.5	8.4 4.3*	18 * 11				
South Fork Canal	22 G 9	3500	1-31	4	0.5	3.3	6.8	3.2	18				
Goolaway Gap	23G1	3050	1-27	9	1.0	2.8	tes 100	1.8:					
KLAMATH LAKE BASIN													
Seven Lakes No. 1	23G10	6800	1-29	127	50.9	29.8	51.0	21.2∺	* 11				
Park Headquarters	22G5	6450	1-30	132	50.2	27.0	43.5	38.2₩					
Seven Lakes No. 2	22G11	6200	1-29	100	31.8	22.7	33.6	18.7*					
Annie Spring Fourmile Lake	22G6 22G12	6018 6000	1-30	109	42.0	21.0	37.5	27.6∺					
Strawberry	20G9	5600	1-31 Not sur	75	31.6	9.4 4 . 1	26.4	5.9×	3 * 11				
*Quartz Mtn.(COPCO)	9	5504	Not sur			5.0		5.5×					
Sun Mouritain	21G2	5350	1-31	86	30.4	11.5	22.8	17.7	18				
Quartz Mountain	20G6	5320	2-1	25	6.5	5.0	8.5	4.8					
Billie Cr. Divide	22G13	5300	1-31	70	26.5	12.1	21.3	13.8*					
Crowder Flat	20H2	5200	Not sur			us	000° CS	2.7%					
Taylor Butte Lake of the Woods	21G3 22G15	5100 4960	1-30	29	9.3	3.4	7.7	3.4*					
Hyatt Prairie Res.	22G16	4900	1-31 1-24	38 25	13.9	8.6 4.7	13.4	7.3	19				
Gerber	21G4	4850	1-31	25 9	8.0 2.9	3.2	11.4 2.6	6.5	21 6				
Bly 101 Ranch(COPCO		4800	1-31	6	2.0	1.5	1.8	1.7	29				
Chemult	21F11	4760	1-31	46	13.5	5.7	12.5	8.5	19				
Yamsey (COPCO)	12	4600	Report			3.8		2.8**					
Kirk (COPCO)	6	4533	1-31	32	9.9	7.0	4.5	5.3	29				
Beatty (COPCO)	1	4300	1-31	4	0.6	0.6	1.0	0.4	28				
Crystal (COPCO) Harriman Lodge (COP	(CO) 8	կ200 կ200	1-31	30	10.8	7.4 _a	9.5	6.2	26				
Chiloquin (COPCO)		4200	1-31 Report	17	5.0	5.5 ^a	5.8	3.4	29				
Fort Klamath (COPCO)) 5	4150	1-31	9	2.7	1.0 ^a 3.8	2.9 5.9	2•2 3•6	26 29				
						700	101	7.0	-/				

^{*}Not located directly on this drainage area.
**Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.

⁽COPCO) - Water content determined by melting a measured sample (The a Telegraphic California Oregon Power Co.'s Station).



		SNOW COVER MEASUREMENTS							
	1956 Past Record								
DRAINAGE BASIN	No.		Date					t(In.) P	
and	OZ.		of		Content			938-52 Y	
SNOW COURSE	State	Elev.	Survey	(In.)	(In.)	:1955	1954	Avg. R	ecord
]	NTE	RIOR	DR A	INA	G E			
GOOSE LAKE BASIN									
Camas Creek	20G8	5720	1-30	1;8	14.4	7.1	9.4	7.5**	
Strawberry Quartz Mtn.(COPCO)	20G9	5600	Not sur					5.9**	
Quartz Mountain	9 20G6	5504 5320	Not sur		6.5	5.0 5.0	8.5	5.5** 4.8**	
eact of Homforth	2000	5520	Z-1	25	0.5	5.0	0.5	Tto Own	20
WARNER LAKE BASIN									
*Camas Creek	20G8	5720	1-30	48	14.4	7.1	9.4	7.5**	17
CHEWAUCAN RIVER									
*Quartz Mountain	20G6	5320	2-1	25	6.5	5.0	8.5	4.8**	26
SILVER LAKE BASIN									
Silver Creek	21F12	4900	1-30	17	3.8	2.0	4.7	2.9**	15
HARNEY BASIN									
Izee Summit Idlewild Camp Starr Ridge Rock Spring	19E9 18F3 19E7 18F1	5293 5200 5156 5100	2-1 1-28 2-1 1-27	35 29 31 31	8.6 5.8 7.5 7.3	4.5 3.5 3.0 3.6	4.5 5.4	6.0 4.0 4.3 4.1	19 23 19 20
Stinking Water	18F4	4800	1-30	23	4.4	3.9	day TOTAL	3.6	17

^{*}Not located directly on this drainage.

**Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.

⁽COPCO) - Water content determined by melting a measured sample (The California Oregon Power Co. 's Station).

^aTelegraphic.

bPartly estimated.



	OREC	ON S NO	W SURVE	(S - DE	LAYED D	ATA		16				
					OW COVE	R MEASU						
DRAINAGE BASIN	No.		Date	1956 Snow	Water		Past R	ecord nt(In.)	Previou			
and	or		of	Depth	Conten	t:		1938-52	Yrs. of			
SNOW COURSE	State	Elev.	Survey	(In.)	(In.)	:1955	1954	Avg.	Recrod			
	J A	NUA	<u>R Y 1</u>	5, 19	56							
DESCHUTES RIVER												
Cascade Summit Hogg Pass	22F3 21E6	4880 4755	1-16 1-16	63 87	24.2 31.8	13.0 18.6	19.7 17.0	ma 959 ma 155	5 5			
WILLAMETTE VALLEY S	TREAMS											
SANTIAM RIVERS												
Hogg Pass Santiam Junction Marion Forks Whitewater Bridge Detroit (new town) Detroit Dam Mill City	21E6 21E5 21E4 21E3 22E1 22E2 22E3	4755 3990 2730 2175 1500/ 1580 826	1-16 1-16 1-16 1-16 1-16 1-16	87 52 32 13 0 0	31.8 19.4 10.8 4.7 0.0 0.0	18.6 13.6 7.6 4.2 1.8 2.0	17.0 16.5 6.8 3.6 0.5 ^b 0.0	 	5557765			
Snow Line: about 160				J			0.0					
MIDDLE FORK WILLAR	AETIE RIV	ER										
Cascade Summit Champion Salt Creek Falls Railroad Overpass McCredie Spring Oakridge Meridian Dam Snow Line: About 300	22F3 22F9 22F4 22F5 22F6 22F7 22F8	4880 4500 4000 2750 2121 1310 750	1-16 1-16 1-16 1-16 1-16 1-16	63 46 31 0 0 0	24.2 16.1 10.8 0.0 0.0 0.0	13.0 14.0 8.6 2.0 1.0 0.0	19.7 11.6 12.2 1.0 0.5 0.0		56 7 7 7 6 4			
COAST FORK WILLAM	ETTE RIVE	R										
Champion Golden Curry Creek Weaver Creek Lund Park Layng Creek R.S. Snow Line: About 280	22F11 22F12 22F13	4500 3136 2440 1740 1200	1-16 1-16 1-16 1-16 1-16	Ц6 10 0 0	16.1 2.6 0.0 0.0	14.0 3.8 2.0 0.0	-	 	6 4 4 4 14			
UMPQUA RIVER												
Diamond Lake North Umpqua	22F18 22F16	5315 4215	1-12 1-12	49 31	15.8 9.4		600 mm	14.4*	+ 12 1			
ROGUE RIVER												
Siskiyou Summit KLAMATH IAKE BASIN	22G20	4630	1-14	13	5.2	3.3	4.2		7			
Lake of the Woods Gerber bPartly estimated. period but not.	21GL **Averag	4960 4850 e is fo	1-15 1-11 or less	34 8 than 15	11.4 2.6 years	2.6	1.0	the 193	4 5 8-52			

period but not less than 5 years.



	Stream	nflow in Thou	sands of	acre-feet
	Oct. 1.95	5 - Jan. 1956	Jan.	1956
BASIN, RIVER and STATION	Total			
		of 1939-53		of 1939-53
		Average		average
UPPER COLUMBIA DRAINAGE (Lower				
Snake in Oregon)				
Owyhee Res. net inflow	242.5	290	148.7	511
TATES CATINETA DE L'ENGO				
LOWER COLUMBIA DRAINAGE				
Umatilla R. nr. Umatilla	199.5	206	86.1	243
John Day R. at Service Cr.	566.4	256	251.0	312
Deschutes R. at Moody	1894.0	147	639.5	173
Hood R. and conduit nr. Hood R.	544.4	189	131.0	162
Willamette R. at Salem	16179.0	210	5352.0	225
Willamette R. at Albany	9622.0	208	3274.0	204
M.F. Willamette R. below	1567.0	203	479.0	201
North Fk.				
OREGON AND CALIFORNIA COAST DRAINAGE				
Imagua D na Elistan	5837.0	5/15	2126.0	225
Umpqua R. nr. Elkton Rogue R. at Raygold	1566.0	209	651.8	235 247
Upper Klamath Lake net inflow	830.3	198	338.7	292
obbot wholes at more no min tow	0,0.0	1.70	١٠٠١	c /c

^aPreliminary data supplied by: U. S. Geological Survey, Current Records Center, Portland, Oregon: The California Oregon Power Co., Medford, Cregon; and North and South Boards of Control, Owyhee Project, Nyssa, Oregon.



	FAI						
DRAINAGE DIVISIONS	SeptOct Observed	Departureb		1955-156 Departure ^b			
Southeastern	2.27	-0.57	5.12	£ 2.42			
Blue Mountains	6.00	≠ 0.63	8.12	½ 3·31			
Wallowa Mountains	7.24	≠1.32	7.29	A 3.00			
Lower Columbia	7.38	≠ 2.15	9.52	<i>1</i> 4.55			
Upper Deschutes	3.74	-0.17	8.57	£ 4.50			
Willamette Valley	21.88	45.43	29.62	,414.03			
Southwestern	8.33	≠0. 98	18.02	£ 9.57			
South-Central	3.90	∤ 0.26	8.98	£ 5.27			
		-					
Southeastern	- Owyhee and low	ver Malheur o	drainages	•			
Blue Mountains	- Upper valleys of the Umatilla, John Day and Malheur, and the Powder, Burnt and Silvies drainages.						
Wallowa Mountains	- Imnaha, Wallow	a and Cather	rine drai:	nages.			
Lower Columbia	- Lower valleys of the Walla Walla, Umatilla, John Day and Deschutes, and the Hood and Sandy drainages.						
Upper Deschutes	- Upper Deschute	es and Crooke	ed draina	ges.			
Willamette Valley	- All Willamette drainages.						
Southwestern	- Umpqua, Rogue and Williamson drainages.						
South-Central	- Sprague, Lost and Interior Basin drainages.						

a - Preliminary analysis by U. S. Weather Bureau.

Note - Precipitation shown in inches.

Departure from 15-year (1938-52) drainage division average.



The following organizations cooperate in the Oregon snow survey work:

STATE

Idaho Cooperative Snow Surveys Nevada Cooperative Snow Surveys

Oregon Agricultural Experiment Station

Oregon State Engineer and corps of State Watermasters

Oregon State Highway Engineers

Soil Conservation Districts of Oregon

FEDERAL

Department of Agriculture

Cooperative Extension Service

Forest Service

Soil Conservation Service

Department of Commerce

Weather Bureau

Department of the Interior

Bonneville Power Administration

Bureau of Reclamation

Fish and Wildlife Service

Geological Survey

Indian Service

National Park Service

Department of National Defense

Army Engineer Corps

PUBLIC UTILITIES

California-Pacific Utilities Company

Pacific Power and Light Company

Portland General Electric Company

The California Oregon Power Company

MUNICIPALITIES.

City of Baker

City of La Grande

City of The Dalles

City of Walla Walla

IRRIGATION DISTRICTS

Associated Ditch Companies

Central Oregon Irrigation District

Deschutes County Municipal Improvement District

East Fork Irrigation District

Grants Pass Irrigation District

Jordan Valley Irrigation District

Lakeview Water Users, Incorporated

Medford Irrigation District

North Board of Control - Owyhee Project

North Unit Irrigation District

Ochoco Irrigation District

Rogue River Irrigation District

South Board of Control - Owyhee Project

Talent Irrigation District

Vale-Oregon Irrigation District

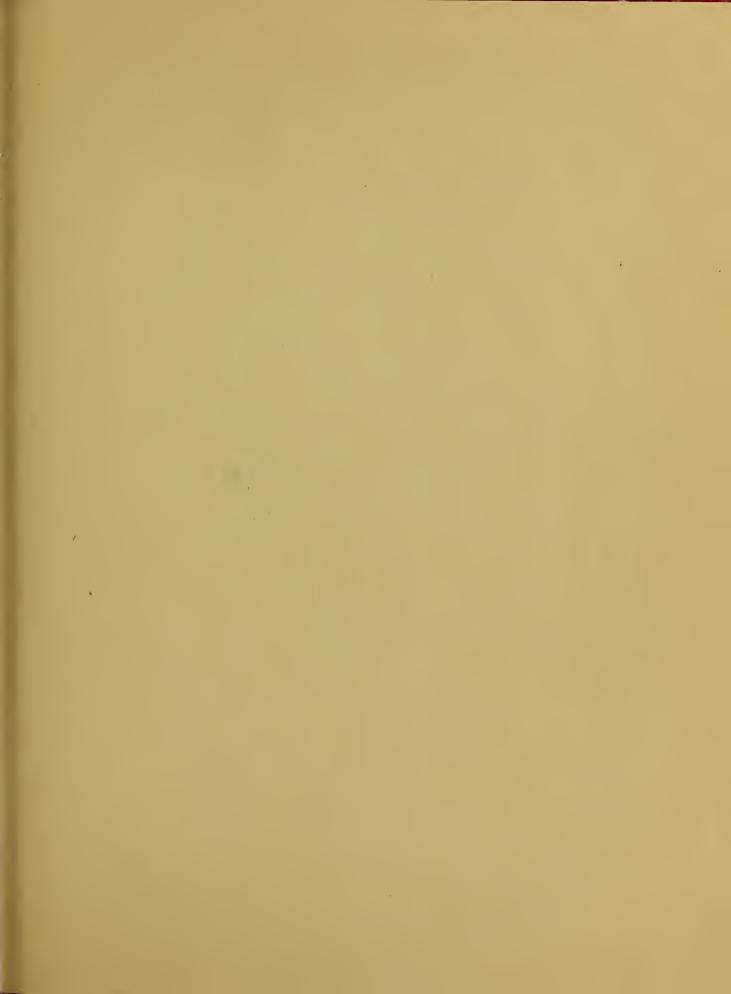
Warmsprings Irrigation District

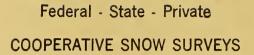
PRIVATE ORGANIZATIONS

Amalgamated Sugar Company

The Crag Rats, Hood River, Oregon







Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"